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ABSTRACT

The effects of cooperative learning on students' perceptions of themselves and their roles in academic settings are explored. A group of 28 students from seven intermediate classrooms in an urban school system were selected to be videotaped while participating in a cooperative problem-solving lesson and were subsequently interviewed. The students were grouped heterogeneously by race and sex, and homogeneously by ability. The students' responses to the cooperative learning setting were analyzed within the following four major categories: (1) achievement level; (2) personal worth; (3) formation of friendships with students of different ethnic groups and sexes; and (4) enjoyment of school. Although responses in all four categories were positive for the majority of the students, significant differences in the perceptions of black and white, and of female and male students were found. These findings suggest that despite the demonstrated value of cooperative learning settings, they may subtly reinforce racial and sexual normative roles. The study concludes with the following three recommendations for future research: (1) teacher effect and experience should be considered and controlled; (2) individual group dynamics should be carefully studied; and (3) teacher role in structuring outcomes in cooperative groups should be investigated. A 13-item list of references is appended. (AF)

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Differences in Perceptions Between Afro-American and Anglo-American Males and Females in Cooperative Learning Groups

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Abstract

The purpose of this study was to gather the reactions of students when working in cooperative learning groups in order to assess student perceived role and its impact upon several school and personal factors. During the 1987-1988 school year, teachers from seven intermediate classrooms in an urban school system had extensive experience working in cooperative learning groups. In the spring of 1988, 28 students from the seven classrooms were targeted for video taping. These students were grouped in a heterogeneous manner for race and sex while homogeneously grouped for ability. These subjects were taped while participating in a cooperative problem solving lesson, and interviewed to gather information about student attitudes toward cooperative learning groups. Their responses were classified and sub-classified into four main categories regarding their perceptions of 1) Achievement level; 2) Personal worth: 3) Formation of friendships with students of different ethnic groups and sexes; and 4) Enjoyment of school. Responses in all four categories were overwhelmingly positive for the majority of students. Major findings concerning working in groups and the related differences between white and black; and between male and female students are discussed.

Cooperative Learning

The purpose of this study was to investigate whether cooperative learning affected students' perceptions concerning their achievement, regardless of present achievement level; their personal worth; their formation of friendships of different ethnic groups and sexes; and their enjoyment of school. Differences in all students' perceptions as well as differences in perceptions due to sex and/or race were considered.

Research supports a conclusion suggesting when cooperative learning takes place, students benefit academically as well as socially. Cooperative learning seems to enhance student attitudes toward achievement, self-esteem, formation of friendships among different ethnic groups, and enjoyment of school.

Achievement for students of different ability levels is affected by small group learning. Sharan et al. (1978) found cooperative learning leads to superior achievement in higher level thinking. Slavin and Oickle (1981) found minority students gain even more than non-minority students as a consequence of learning cooperatively, thus reducing achievement disparity between blacks and whites.

Tjosvold and Santamaria (1978) report students who work in cooperative groups like and support each other, influence each other, and develop group cohesion. This in turn allows them to make decisions in a positive and enjoyable manner. A result from this experience in cooperative groups is students who feel better about themselves and

have more confidence in making classroom decisions.

Another result from cooperative learning experiences is the positive affect on racial attitude and behavior in both instructional and free time. Students in cooperative conditions are involved in cross ethnic giving and receiving of help (Johnson and Johnson, 1981). These experiences support the formation of cross racial friendships which break down barriers to the desire to supply help to each other (Slavin, 1979; DeVries, Edwards and Slavin, 1978). Students see each other in a more positive light and to form friendships based upon human qualities rather than skin color or accent (Slavin, 1987). Relationships between male and female students are more positive leading to intergroup relations which are strong and long lasting (Johnson, Scott, and Ramolae, 1985; Slavin, 1987).

This study attempted to determine if black and white male and female students had similar perceptions regarding group experiences. It was the authors' contention, from the outset, that these perceptions may in fact be different between males and females, and between blacks and whites.

Method

Subjects

Twenty Eight (28) students from seven intermediate classrooms in an urban school system served as subjects for this study. Four students from each classroom were targeted for video taping and interview. These students were organized heterogeneously into groups of four by race and sex. Simultaneously, they were placed in homogeneous groups by achievement in science based upon their percentage score on the Third Grade form of the California Achievement

Test. The grouping format resulted in two high achievement groups, three middle achievement groups and two low achievement groups. Four target groups were, for classroom organizational reasons, unable to follow the above grouping guidelines precisely.

Design

A qualitative research design was employed. The purpose of the approach was to discover and characterize the responses of the participants. The outcome is a detailed description of various responses. The attempt to gain an understanding of events from the participants' view has been referred to as the phenomenological or naturalistic tradition of social science research (Bogdan & Biklin, 1982). The interview technique (Bailey, 1978) was chosen in order for students to respond alone in a controlled environment. There was also assurance that every question in the interview would be answered.

Procedures

A two-step procedure of video taping and interviewing was used to gather information. A video tape was made so the students could view themselves in a natural classroom setting, capturing the moment of the full lesson. This was done to encourage a more honest student reaction during the interview.

Prior to the the actual video taping session, each classroom was desensitized to the presence of a video camera a total of four times. The entire class was scanned with a non-functioning video camera during a variety of thirty minute cooperative lessons. These techniques were done so the four students targeted for study would not be aware they were the focus of attention. All target groups were video taped while participating in a thirty minute cooperative problem solving lessons.

As the teacher gave instructions for the activity, the entire class was scanned. When students began the task, only the target group was taped. In every classroom all students were unaware of only one group being taped.

The video taped lesson, "Floating Clay Duel"(Elementary Science Study) was structured so each student had an equal chance for success in that content background, reading or spatial skills were not requirements. Additionally, this lesson did not assign cooperative or problem solving roles, so students had the freedom to structure their own participation.

The second phase of the procedure was to interview each student after he/she had viewed the video tape of his/her group. The purpose was to determine how students would react to personal and group participation following the cooperative learning lesson.

The interviews were conducted in a quiet location with only the interviewer and student present. The thirty minute session was audio taped so the interviewer would not be required to write student responses to the questions for later analysis. The interview questions were used as a point of departure for encouraging responses with the interviewer asking for clarification or greater specificity when necessary.

The interviewers were teacher colleagues or other school volunteers. Training involved discussion of general procedures of the study, the interview questions, and the ice-breaker questions.

The entire procedure was piloted in order to determine appropriateness. The investigators then met to view the pilot video, read the audio taped interviews and review the interview procedure in

order to standardize the process.

Data Analysis

Data analysis consisted of categorizing and characterizing the interview data. First, paraphrasing of the audio tapes of interviews was done by the investigators who worked together in order to ensure an accurate interpretation of student comments. The paraphrased data was then grouped by response to interview question. All responses were tallied by achievement levels. The process of categorization was conducted collectively.

The final compiled interview results were then compared to the individual responses of the subjects using a process termed "member checking". This involved members of the research team being asked to critique the results and recommend modifications to the draft of the written results.

Results

This study investigated whether cooperative learning had an effect on the perceptions of all students and whether there were differences in perceptions due to sex and/or race. Responses to the eight questions the students were asked were grouped into four categories.

1. The perception of achievement for all students, regardless of achievement level, as a result of a cooperative learning experience.
2. Student self perception of personal worth following a cooperative learning experience.
3. Friendship formation among and between ethnic groups and different sexes as a result of a cooperative learning experience.

4. Enjoyment of school following a cooperative learning experience.

Tables, which follow in the next part of this paper relate to the above categories. Table numbers relate to category numbers and are developed to report information from the eight questions which children were asked regarding their cooperative learning experience.

Conclusions, Implications, Recommendations

While each table relating to the four categories above includes important information, together there appear to be trends in tables which are not apparent when considered individually. This is not to reject individual table information but rather to stress the relationship between the combined tables leading to the related information which is reported below.

Conclusions

Table 1.1 reports results from the question dealing with Perception of Achievement as students were asked to respond to the question, How do you rate your work?

PLACE TABLE 1.1 ABOUT HERE

Data were analyzed to determine if race or sex were factors in determining trends in the response as among high, medium or low student ratings. From inspection of this table it becomes clear that race or gender were not important in themselves in suggesting trends in response information. Additionally, Table 3, which reports results related to acceptance of other group members, reveals little in terms of different responses among either black and white children or males and females.

PLACE TABLE 3 ABOUT HERE

Apparently most children regardless of race or gender approve of all members of the group. In this case 22 children responded positively toward all members within their group. Six reported that some of their classmates in their group were accepted more than others. There was an equal representation among white and black students and a slightly higher number of females (4) than males (2) who selected this option. Since these two tables lend little in identifying differences among or between groups they will not be considered further.

Differences Between Male and Female Youngsters. There are however interesting trends which develop when Tables 1.2 and 1.3 are considered individually and simultaneously.

PLACE TABLE 1.2 ABOUT HERE

Through inspection of table 1.2 an interesting development becomes apparent. When children were asked to rate their contribution toward the group effort there was little difference between black children and white children however there is a dichotomy between males and females. Females rate their contribution lower in terms of help than do males in this sample. Additionally, through inspection of Table 1.3 more males were named as helping the most and also seen as helping the least.

PLACE TABLE 1.3 ABOUT HERE

Apparently males are often seen as either major helpers or non helpers, where as females are seen rather indifferently both in terms of self perception of achievement, where they report their contribution as less important than males, and in terms of major contributors toward a group effort where females are not seen by others as either strongly positive or negative. Females seem to take a more passive role in terms of contribution and perceived contribution by others within the group.

For whatever reason, it is clear from analysis of this data, males and females within cooperative groups are perceiving this behavior differently.

Differences Between Black and White Youngsters. Table 2.1 reveals information related to perceived student achievement when ability level is considered.

PLACE TABLE 2.1 ABOUT HERE

All ability groups (high medium, and low) rated their personal worth as high or medium in quality while in cooperative groups. This reported information was consistent regardless of ethnic or gender membership. Since cooperative problems solving groups were made up of children representing the three ability groups, it can be assumed the resulting account of personal worth may not be a function of ability class representation but more related to membership in a cooperative group.

Examination of Table 2.2 reveals an interesting trend related to student answers to the question "What are you thinking about yourself right here (while viewing a video tape of the cooperative episode)"?

PLACE TABLE 2.2 ABOUT HERE

While several Ss misinterpreted the intent of the question a consistent pattern begins to emerge. Of the nine Ss who responded positively, seven were white. Of the nine negative responses, six were Black. While this sample is too small to make sweeping generalizations or recommendations, it is clear the trend toward positive attitudes among whites and negative attitudes in blacks is developing within this group of children. This finding is contrary to several studies which support the premise, cooperative education leads to race as a non-

factor when considering questions of personal worth.

Examination of Tables 2.1 and 2.2 simultaneously an alarming trend is apparent. Not only do white students perceive themselves higher but report their personal experiences in cooperative groups make them feel better still. Black youngsters, on the other hand perceive themselves negatively while not building toward a positive self perception.

Table 4 includes information related to the question: Do you like school more, the same, or less when working in groups?.

PLACE TABLE 4 ABOUT HERE

The evidence from student responses suggests a trend developing where white students tend to respond positively toward the liking of school as a result of working in cooperative groups. Of concern is the trend suggesting Black students feel the same about school whether in cooperative groups or not. By itself this finding is not alarming. At least cooperative grouping does not detract from an already fragile attitude toward school. However when considered with the information derived from Table 2.1 and 2.2 a rather distressing pattern begins to emerge. Apparently black children perceive themselves lower than white students, do not build positive perceptions and are not, as a result of cooperative grouping, making any adjustments to these negatives.

Implications

Since ability was not a factor in determining student perceived work quality, feelings of personal worth, or enjoyment of school and each other, it would appear as if cooperative group membership appears to be valuable in helping children toward a feeling of success in both academic and affective arenas. However, ability group membership is where similarities among subjects begins to disappear. Race and gender

effects can be seen within this sample of children. These two subsets of this sample are just not the same. This study suggests a tendency for females to rate their contributions lower in terms of help than do males. Other rated females' help indifferently in comparison to males who were seen as either major helpers or major nonhelpers. Females of this sample were seen rather neutrally as neither major helpers or nonhelpers. This may be related to social expectations for males in that they may be expected to, often times, be more competent than females in a science related task as this is typically seen as a more male oriented field. Apparently males are seen in an important role within the group and their behavior influences either positively or negatively the outcome of the group. The same cannot be said for females. Because of the feelings of indifference but by females themselves and the other members of the group, it would appear as if the group could perceivably function as well or as poorly with or without the input of these individuals.

Black children and white children are also distinctly different in this study. White children perceive themselves positively, build upon that positive feeling, and enjoy school more as a result of these cooperative experiences. The same may not be said for black youngsters. These children are neutral at best in terms of self perception and enjoyment of school. Clearly if children are to feel positive about school an important beginning is a positive attitude toward themselves and their contribution to the educational process when involved within a cooperative situation. It would appear as if white children are feeling good about themselves, their work effort, and school in general. The same may not be said about black children.

The primary implication of this finding is that white children and black children may not be getting the same experiences from a cooperative learning experience. This could be related to an apparent trend toward the taking of different roles by the members of each group. The critical question may not be are cooperative group experiences beneficial, for clearly cooperative groups are beneficial, but rather what role within the cooperative group would be most beneficial for each group member? It white children assume leadership roles and black children assume more subservient roles then the purpose for cooperative groups seems to be somewhat diminished. In the same vein if males assume one role and females assume another the cooperative group may in fact be unintentionally reinforcing a somewhat sexist attitude among children, both male and female, when males become leaders and females observers and recorders.

Recommendations

While this sample was relatively small (28 Ss and 7 classrooms) it is clear further research with a larger sample is necessary. Several factors should be considered by future researchers. First teacher effect should be considered and controlled. Teacher experience, both in terms of overall years of experience in addition to cooperative group experience should be considered in order to determine if student reports are more a result of individual teacher's behaviors or student cooperative group experience. Second, future investigators may wish to concentrate on the dynamics of a particular cooperative group rather than the group benefits. Since there is ample evidence to support the positive effects of cooperative experiences, information relative to individual role assumed within the group would be helpful in suggesting

both positive and negative effects for all children within the group. This information becomes important if there are variable effects for children of different ethnic or gender groups. Finally an important and interesting investigation could involve study of teacher role within cooperative group. If a teacher is involved in structuring outcomes for the group by giving constant direction and student role responsibility, will student perception and performance within this group be different from those whose teacher may be less involved in the overall cooperative group management?

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Table 1.1
Perception of Achievement--How Do You Rate Your Work?

High		Medium		Low	
14		14		0	
Blk	Wht	Blk	Wht	Blk	Wht
6	8	8	6	0	0
M|F	M|F	M|F	M|F	M|F	M|F
3|3	5|3	4|4	2|4		

Table 3
Rating of Personal Acceptance of Other Group Members--Did You Enjoy Working With All, Some or None of the People in Your Group?

All		Some		None	
22		6		0	
Blk	Wht	Blk	Wht	Blk	Wht
11	11	3	3	0	0
M|F	M|F	M|F	M|F	M|F	M|F
6|5	6|5	1|2	1|2		

Table 1.2
Perception of Achievement--Did You Help the Group Solve the Problem? How Did You Rate Your Help?

High		Medium		Low	
18		9		1	
Blk	Wht	Blk	Wht	Blk	Wht
9	9	4	5	0	0
M|F	M|F	M|F	M|F	M|F	M|F
6|3	5|4	1|3	2|3	|1	|

Table 1.3
Perception of Achievement--Who Helped the Most in Solving The Problem?
Who Helped the Least? Help?

	Helped Most		Helped Least	
Everyone	8 (28)			
			No One	10 (36%)
	Blk	Wht	Blk	Wht
Named a Student	12	11	6	11
	M|F	M|F	M|F	M|F
	6|6	7|4	4|2	6|5

Table 2.1
Perception of Personal Worth--Did Working in Groups Make You Feel
Better, About the Same, or Worse?

Better		**Same**		**Worse**	
18		9		1	
Blk	Wht	Blk	Wht	Blk	Wht
6	12	7	2	1	
M|F	M|F	M|F	M|F	M|F	M|F
3|3	5|7	4|3	2|0	1|1	

Table 2.2
Perception of Personal Worth--Explain What You are Thinking
About Yourself Right Here.

Positive		**Negative**	
9		9	
Blk	Wht	Blk	Wht
2	7	6	3
M|F	M|F	M|F	M|F
1|1	4|3	3|3	2|1

* 10 students misinterpreted the question.

Table 4

Rating of Personal Attitude Toward School Activities--Do You Like School More, The Same, or Less When Working in Groups?

More				Same				Less			
19				8				1			
Blk		Wht		Blk		Wht		Blk		Wht	
6		13		7		1		1			
M	F	M	F	M	F	M	F	M	F	M	F
2	4	7	6	4	3		1	1			